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ABSTRACT

The fourth in a series of health education modules for physically handicapped students (grades K-12) centers on environmental and community health. Considered in an introductory section are definitions and descriptions of nine types of physical disabilities, and reviewed are learning activities in environmental and community health at The Human Resources School in Albertson, New York. Background information for specific physical conditions and listings of concepts, student activities, and student self evaluations are provided for three elementary modules (environmental and public health, world health, and consumer health), and four secondary topics (environmental and public health, world health, ecology and epidemiology of health, and consumer health). A listing of New York State curriculum topics in health education is appended. (CL)

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Environmental and Community Health

INDIVIDUALIZED HEALTH INCENTIVE PROGRAM MODULES FOR PHYSICALLY DISABLED STUDENTS FOR GRADES KINDERGARTEN THROUGH TWELVE

TEACHER'S EDITION

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HUMAN RESOURCES SCHOOL
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1977

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FOREWORD

I am delighted to congratulate the distinguished members of the Human Resources School faculty whose efforts and dedication over the last three years have culminated in the publication of these Health Education modules.

Health Education is one of the most important components of any school's curriculum. It is not enough for us to prepare our children to enter college or the world of work; we must prepare them to enter the arena of life equipped with a full understanding of their bodies and minds. Topics like mental health, family life, safety, and nutrition are as important to the growing disabled child as they are to the able-bodied youngster.

My responsibilities as Chairman of the White House Conference on Handicapped Individuals have given me a clear perspective on the status of the severely disabled in America's communities. Throughout the nation, states are enacting legislation to mainstream disabled children into neighborhood public schools. The modules will go a long way in preparing teachers in public schools in New York State and throughout the country to provide handicapped children with a proper health education.

Henry Viscardi, Jr.
Human Resources Center

ACKNOWLEGEMENTS

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Special recognitition goes to the dedicated faculty members who contributed activities, worked with the students, evaluated and revised these modules: Barbara Steinberg, Eileen Singleton, Barbara Ringewald, Edna Humbert, Kathy Finnigan, Susan Gordon, Patricia Iannucci, Carol D'Ambrosio, Phyllis Riefberg, Sheila Mohrmann and Linda Mrowka.

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Special appreciation is also extended to the research librarian, Ruth Velleman, for resourcefulness and zeal in obtaining all the specialized books, articles, and curriculum materials used by the project staff and students.

Sincere thanks to the capable project secretaries, Susan Kurtzke and Marie Bennett.

For invaluable guidance in the technicalities of developing our project, I wish to add a note of appreciation to Dr. Edwin Martin, Dr. Max Mueller, Melville Appell and Mel MacNeill of the Bureau of Education for the Handicapped in Washington.

The New York State Education Department and its Department of Health and Drug Education have contributed encouragement and materials, in addition to an excellent curriculum upon which to build.

Final gratitude is expressed to our wonderful administrators, Richard Switzer, Dr. Henry Bormann, and Robert Gibney.

Kathryn D. Reggio
Project Director

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INTRODUCTION

The purposes of this project are to adapt the New York State Health Education curriculum to the special needs of physically disabled students in grades kingergarten through twelve, and to organize educational information about physical disability.

This module, Environmental and Community Health, is one of the five areas or strands of health education which have been adapted. The others are Safety and Survival Education, Physical Health, Sociological Health Problems, and Mental Health and Family Life Education.

Under each topic of the New York State Health Education curriculum, individualized health incentive program modules have been adapted for students having the physical disabilities included at Human Resources School.

To deal with the mental health needs of children in the school whose disabilities included 33 different handicaps or diseases, this adapted curriculum considers them under nine broad categories of health problems.

1. Lack of function of the involuntary nervous system
2. Diminution or absence of feeling in the extremities, paralysis, wearing braces, confinement to a wheelchair, poor cordination
3. Generalized muscle weakness
4. Arm and joint immobility
5. Prosthetic limbs
6. Fragility of bones
7. Diminutive size
8. Poor circulation
9. Inability to control bleeding

Each health problem is represented by the underlined disability listed next to it, but it is felt that the modules could also apply to the other disabilities which are listed with the underlined disability.

Thus, teachers and students could use the activities of the module for any of the other disabilities in the same category.

This program builds in the incentive by incorporating student self-evaluation activities and a number of motivational procedures. It is believed that student self-evaluation based on individually chosen relevant learning activities provides the greatest incentive for learning and leads to a stronger desire to improve.

The three columns on each right-hand page are directed toward the student, and the student activities and self-evaluations are written in terms of behavioral objectives. Only the teacher's module contains the background information on the left-hand page.

Dysautonomia

Spina Bifida, Post-poliomyelitis, Quadraparesis, Paraplegia, Hemiplegia, Spastic Paraplegia, Dystonia, Legg-Calve-Perthes Disease, Seizure Disorders

Muscular Dystrophy, Amyotonia Congenita, Kugelberg-Welander Disease, Charcot-Marie-Tooth Disease

Arthrogryposis, Rheumatoid Arthritis

Congenital Amputee, Limb Deformities

Osteogenesis Imperfecta

Achondroplasia

Congenital Cardiac Conditions, Rheumatic Heart Disease

Hemophilia, Thalassemia, Sickle Cell Disease

This curriculum is conceived of as separate modules for each topic. It has been printed and bound in two forms – the first, a limited number of the separate modules, and the second with the modules combined into bound booklets. This second form was necessitated by budgetary limitations. Human Resources accepted the responsibility of sharing the finished product with all the participating agencies, school districts, and consultants who cooperated with the committee during the project's development. This was possible only by binding the modules as booklets instead of packaging each one separately in its own packet or binder.

The suggested method of use is to have each student individually choose the topic he finds pertinent and follow the related activities and student self-evaluations.

The student's modules can be printed without the teacher background information.

The activities were designed for use with the severely physically disabled students at Human Resources School. The school has certain decided advantages for implementing a special health education curriculum:

1. A number of students with similar disabilities who can work together on related activities.

2. Accommodated rooms, furniture, shelves, elevators, automated doors, etc.

3. Specially adapted: library, swimming pool, gymnasium, stage, auditorium, cafeteria, art room, toilets, open classroom, home economics room, greenhouse.

4. Services of a physician, school-nurse-teacher, practical nurse, physical therapist, dental clinic, orderly, psychologist, speech therapist, and 200 volunteers.

5. Equipment: motorized wheelchairs, rolling litters, rolling stretchers.

The staff of the school has found that students who might otherwise be homebound can be physically accommodated. When the physical accommodations are provided, the intellectual and social needs can be taken care of. The health project committee does believe that, although it was developed in a special setting, this health curriculum also has a wider application to schools or classes having only a few students with physical disabilities.

Although the average school may not have all the suggested accommodations, the background information pages tell the teachers what their students with certain disabilities might be expected to do and what special needs must be considered in their health education.

School districts wishing to conform to the law mandating equal opportunity for education for the handicapped may be able to adapt their facilities on a smaller scale as the needs arise.

In inaugurating a health curriculum at HRS, a great deal of time had to be spent on the most basic general material. For a number of reasons, the students at HRS knew less about health than the average student.

The opportunity to spend more time than the minimal amount required by the state had never presented itself before. Students had missed a great deal of both academic and health education through long absences and hospital stays. The fact that someone else had had to perform a great deal of their physical care had made it unnecessary for them to learn basic hygiene or health habits. This situation had also delayed or discouraged the development of individual iniative.

The curriculum in environmental and community health recommended for physically disabled students and followed as a basic course at Human Resources School includes the objectives and content topics given in the New York State Health Education Curriculum. We feel that they are excellent. As a matter of fact, our experience has been that our students needed a great deal more time devoted to the content than was required by the state – and we did allow the necessary time.

The basic assumption at HRS is that our students are normal young people who happen to have a disability. They have all the physical, emotional, and intellectual needs of other normal students, plus some additional ones engendered by their disability. We therefore regard our curriculum as an addition to the New York State curriculum, not a replacement and recommend that both the basic course of study for New York State, and the units developed at Human Resources School be used together.

A curriculum in health education for the physically disabled, intellectually average student should include all the knowledge and topics in the regular curriculum so that disabled students with limited experience would be able to understand the standards of the average, physically "normal" person

and can realize how much of their own health and bodily activity is the same as that of the average person.

Because of their limited experience or sheltered environment, some physically disabled students need special understanding about how and why regular health habits apply to them.

In addition, physically disabled students need to learn the practicalities of dealing with special health problems related to or resulting from their disability. As a matter of fact they need to learn what their disability is, and to know how to maintain or improve their health status.

To deal with the needs of children in our school whose disabilities included 23 different handicaps or diseases, this adapted curriculum considers them under nine broad categories of health problems:

1. Lack of function of the involuntary nervous system
2. Diminution or absence of feeling in extremities, paralysis, wearing braces, confinement to a wheelchair, poor coordination
3. Generalized muscle weakness
4. Arm and joint immobility
5. Prosthetic limb
6. Fragility of bones
7. Diminutive size
8. Poor circulation
9. Inability to control bleeding

Conclusion: They need more time for health education. The recommendation is for six half-year programs in junior-senior high school on a 3-year cycle of topics, 3 for junior high and 3 for senior high.

In each of the elementary grades, integration with other subjects is recommended on a three-times-a-week basis.

DEFINITIONS OF DISABILITIES

DYSAUTONOMIA – Genetic condition found in Jewish children of Eastern European extraction. Affects the function of the autonomic (involuntary) nervous system. Skeletal involvement, such as scoliosis, often occurs.

SPINA BIFIDA – Congenital (existing from birth). Defect in the vertebral column characterized by the presence of a myelomenigocele (protrusion of the spinal cord and membrane covering it) both of which should normally be covered by vertebrae. Below the level of the defect, the child has diminished sensation of lower extremities, varying degrees of paralysis, and is incontinent of bowel and bladder.

POST-POLIOMYELITIS – Poliomyelitis is an infectious disease affecting the motor cells in the spinal cord resulting in weakness or paralysis. There may be subsequent atrophy of groups of muscles, ending in contraction and permanent deformity.

QUADRIPLEGIA – Paralysis affecting all four extremities.

PARAPLEGIA – Paralysis of lower portion of body – below waist. May be traumatic, infectious, or congenital.

HEMIPLEGIA – Paralysis on one half of the body – one leg and arm on one side.

SPASTIC PARALEGIA – Spastic paralysis occuring in early childhood. May be traumatic, infectious or congenital. May involve cerebral hemorrhage before birth, or abnormal, involuntary movements of the muscles.

DYSTONIA – Musculorum Deformans – Chronic motor disorder. May be hereditary. Marked by abnormal movements of the muscles.

ATAXIA – Generalized term – usually involves poor coordination, lack of dexterity, unsteady gait, and slow speech. May be congenital or acquired.

FRIEDRICH'S ATAXIA – Progressive paralysis of lower limbs, ataxia and speech impairment.

LEGG-CALVE-PERTHES DISEASE – A disease of the head of the thigh bone which causes a degeneration and necrosis. This is followed by regeneration or recalification. (hip area). Most often affecting boys between four and eleven years of age.

CEREBRAL PALSY – The most common terminology used for children whose symptoms are similar to those with Ataxia However, there is also a disorder in movement, posture, and coordination related to non-progressive damage to the brain.

MUSCULAR DYSTROPHY – Hereditary disorder transmitted by females but affecting mostly males. Progressive generalized weakness of the voluntary muscles. Non-contagious, chronic wasting which leads to increasing infirmity, and ultimately death.

AMYOTONIA CONGENITA (Oppenheim's Disease) – Born with generalized poor muscle tone. "Floppy" With or without muscle weakness. A descriptive term for many conditions. (Spinal Atrophy)

KUGELBERG-WELANDER DISEASE – A Neuro-muscular disorder. Weakness and atrophy (wasting) of muscles; slowly progressive.

CHARCOT-MARIE-TOOTH DISEASE – Peroneal muscular atrophy. Hereditary neuro-muscular disorder. Slowly progressive muscle atrophy and weakness, starting in the legs.

ARTHROGRYPOSIS MULTIPLEX CONGENITA – A congenital, non-progressive condition in which the tissues at some or all the joints are stiff and fibrous holding the limbs rigid in flexed or extended positions. The joint malformations result from immobilization of the developing embryo from any of a variety of causes which prevent normal spontaneous movements.

RHEUMATOID ARTHRITIS – Disease in which inflamed joints are often accompanied by pain, swelling, and limitations in joint movement and weakness of muscles.

CONGENITAL AMPUTEE – Children who are born with total or partial absence of a limb. (Also called reduction deformity)

LIMB DEFORMITIES – Distortion or disfigurement of a limb.

OSTEOGENESIS IMPERFECTA – This condition, also known as "Brittle Bones", is an inherited disorder of development in the skeleton in which the calcium content is far below normal. The bones are excessively thin and subject to multiple fractures following even mild trauma. Children are usually smaller in stature because fractures often occur in the long bones of lower extremities. Congenita: born with abnormalities and often many fractures. Tarde: Condition often not seen until the child starts to walk. Then fractures occur.

ACHONDROPLASIA – Congenital, frequently hereditary disorder in the conversion of cartilage to bone. Because of this, the growing ends, or epiphyses, of the long bones of the limbs, are affected, and inadequate growth results in a type of dwarfism. Short extremities, but well proportioned body. Lordosis (curvature of spine) often occurs, too.

CONGENITAL CARDIAC CONDITIONS – Born with a defect of the heart. This may involve a defect of the valves or it may involve the great vessels. Some of these can be corrected by surgical procedures.

RHEUMATIC HEART DISEASE – Injures the endocardium, the valve, or the muscle fibers. The valves may lose their original efficiency, so that passage of blood is hindered.

HEMOPHILIA – Hereditary disorder transmitted by females but usually affecting only males. An abnormality in blood coagulation resulting in prolonged coagulation time and lowered prothrombin (clotting factor II) consumption.

THALASSEMIA – Hereditary; genetically determined, chronic anemia, causing poor bone growth, fatigability, nose bleeds, and low grade fever.

SICKLE CELL DISEASE – A hereditary, genetic condition of the blood which affects the red blood cells causing them to be malformed like a sickle. Occurs most often in blacks. Characterized by arthralgia, acute attacks of abdominal pain, and ulcerations of the lower extremities.

SUMMARY OF INFORMATION ABOUT DYSAUTONOMIA (1)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Dysautonomia – Genetic condition found in Jewish children of Eastern European extraction. Effects function of autonomic (involuntary) nervous system. Skeletal involvement, such as scoliosis, often occurs.

SYMPTOMS:

Lack of tears

Insensitivity to pain

Vomiting

Blotching of skin

Unstable temperature – fluctuations unrelated to infections

Unstable blood pressure

Emotional instability

Delayed development (Riley-Day Syndrome: late motor development, floppy appearance, tendency to vomit, some degree of pseudo-retardation due to lack of experience and exposure early in life)

HOSPITALIZATIONS AND TREATMENTS:

Nerve biopsies (nerves have areas without normal bundles)

Eyes: histamine and mecalin

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS:

PROBLEMS:

Corneal ulcers

Gastro-intestinal problems

Bladder problems – incontinence of urine

Skeletal system: scoliosis, deformities of long bones, embarrassment of respiratory system

Tendency to become fatigued easily because of weaker muscles, diminished respiratory function, lower endurance

Sleep often interrupted by URI or vomiting

Short life expectancy – death possible from aspiration, cardiac or respiratory failure, high fever, fluctuating blood pressure

RECOMMENDATIONS:

Therapy: derotation exercises for scoliosis, ROM and active assistive exercises, breathing exercises

Back brace if scoliosis is severe

Artificial tears to be administered several times daily

Quiet firmness on the part of teachers and others in authority; need for defined controls and limits

SUMMARY OF INFORMATION ABOUT SPINA BIFIDA MANIFESTA (2)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Spina Bifida Manifesta – Congenital (existing from birth). Defect in the vertebral column characterized by the presence of a myelomeningocele (protrusion of the spinal cord and membranes covering it) both of which should normally be covered by vertebrae. Below the level of the defect, the child has diminished sensation of lower extremities, varying degrees of paralysis, and is incontinent of bowel and bladder.

SYMPTOMS:

Myelomeningocele present at birth

Sensory loss and motor loss

Bowel and bladder incontinence

Hydrocephalus (enlargement of the head caused by improper circulation and absorption of cerebrospinal fluid) may develop any time after birth.

HOSPITALIZATIONS AND TREATMENTS NOTED IN RECORDS:

Closure of myelomeningocele shortly after birth

Shunt procedure to redirect cerebrospinal fluid into the heart, where it can circulate with the blood and reduce the possibility of hydrocephalus.

Periodic shunt revisions later in life

Periodic urological check-ups

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS:

PROBLEMS:

Occasional tenderness at area of myelomeningocele closure

Development of decubitus ulcers on buttocks

Pressure sores from braces

Development of lower extremity deformities

Urinary tract infections

RECOMMENDATIONS:

Therapy: ROM, PRE for uppers, ambulation training with appliances, swimming

Brace changes

Surgical procedures to allow ambulation without braces

Treatment of decubitus ulcers

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY PARENTS:

Change in behavior after shunt revisions

Embarrassment at bowel and bladder incontinence

Embarrassment at wearing orthopedic shoes (noted by teacher)

SUMMARY OF INFORMATION ABOUT MUSCULAR DYSTROPHY (3)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Duchenne Muscular Dystrophy – Hereditary disorder transmitted by females but affecting mostly males. Progressive generalized weakness of the voluntary muscles. Non-contagious, chronic wasting which leads to increasing infirmity, and ultimately death.

MEDICAL LISTING OF EIGHT STAGES OF FUNCTIONAL ABILITY

1. Ambulates with waddling gait and marked lordosis. Elevation activities adequate (climbs stairs and curbs without assistance).
2. Ambulates with waddling gait and marked lordosis. Elevation activities deficient (needs support for curbs and stairs).
3. Ambulates with waddling gait and marked lordosis. Cannot negotiate curbs or stairs, but can achieve erect posture from standard height chair.
4. Ambulates with waddling gait and marked lordosis. Unable to rise from a standard chair.
5. Wheelchair-independence: Good posture in the chair, can perform all activities of daily living from wheelchair.
6. Wheelchair-dependence: Can roll chair, but needs assistance in bed and wheelchair activities.
7. Wheelchair-dependence-and back support: Can roll the chair only a short distance, needs back support for good wheelchair position.
8. Bed Patient: Can do no activities of daily living without maximum assistance.

SUMMARY OF FINDINGS FROM SCHOOL RECORDS

For the general understanding of teachers or aides who might be working with a student with Muscular Dystrophy we have summarized the findings of the records of our 34 students who have Muscular Dystrophy.

EARLY STAGES–

SYMPTOMS–

Ambulates with moderate amounts of waddling and lordosis (bending backwards) with a heel-toe pattern

Ability to walk on toes but not on heels

Need to use rail or have assistance in going up stairs or climbing a curb

Complete independence in all activities of daily living

Deep tendon reflexes absent except for Achilles jerk

Normal range of motion except for tight heel cords

Bilateral hypertrophy of the calf

Tendency to fall frequently

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS

Encouragement to ambulate as much and as long as possible to prevent progression of deformities

Therapy–Active assistive exercies for upper extremities, exercises for trunk musculature, ROM (Range of Motion) of hips, knees, and ankles. All to prevent later deformities and to help maintain present level of function.

Lengthening of the heel cord and transplanting of tibial dorsum to allow ambulation for a longer period of time. (Can ambulate with braces or cast one week following surgery.)

MIDDLE STAGES–

SYMPTOMS–

Increased tendency to fall and inability to get up after falling

Final confinement to a wheelchair and dependence for activities of daily living except for feeding self and writing

Development of flexion contractures of both hips and knees and equinovarus deformity of ankles.

Severely limited range of motion in heel cord

Development of scoliosis (curvature of the spine)

Absence of deep tendon reflexes except for achilles jerk

Tendency to obesity

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS–

Continuation of therapy to maintain level of function and prevent further deformities

Sometimes braces to prevent deformities

Wheelchair when ambulation is no longer possible

Diet to control obesity

Disruptive behavior in school sometimes noted by parents and teachers

LATER STAGES–

SYMPTOMS–

Complete dependence in all activities of daily living

Inability to feed self or write as musculature of wrists and hands decreases

Round facial appearance with involvement of muscles of mastication (chewing)

Complete absence of deep tendon reflexes

Progression of hip, knee and ankle deformities

Tendency to obesity

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS–

Appliance to aid in writing and feeding self

Plastic sitting corset to prevent progression of scoliosis

Electric wheelchair

Diet to control obesity

Comfort aids, particularly specially made cushions to prevent pressure sores on buttocks

HOSPITALIZATIONS NOTED IN RECORDS–

Sometimes surgery for lengthening of heel cord (early stages)

Respiratory infections (later stages)

MEDICAL TREATMENTS NOTED IN RECORDS–

Surgical lengthening of the heel cord and transplanting of the tibial dorsum to allow ambulation for a longer period of time

Inhalation therapy

TESTS NOTED IN RECORDS–

Muscle biopsy, enzyme studies, etc. to determine carrier

Blood tests of parents to determine if disability is result of mutation or sex-linked characteristic

SUMMARY OF INFORMATION ABOUT ARTHROGRYPOSIS MULTIPLEX CONGENITA (4)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Arthrogryposis Multiplex Congenita – A congenital, non-progressive, condition in which the tissues at some or all the joints are stiff and fibrous, holding the limbs rigid in flexed or extended positions. The joint malformations result from immobilization of the developing embryo from any of a variety of causes which prevent normal spontaneous movements.

SYMPTOMS:

Underdeveloped due to basic disability; generalized underdevelopment of muscles and resultant muscle weakness

Absence of deep tendon reflexes

From birth – Flexion deformities of the hips, knees, wrists, toes; deformities of feet; dislocated hips

HOSPITALIZATIONS AND TREATMENTS:

Surgery to correct flexion deformities

Heel cord lengthenings and tissue releases

Bone fusions

Casting of hand to improve function (done when young)

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS:

PROBLEMS:

Development of scoliosis

Frequent abdominal complaints due to ulcers or ulcerated colitis (young adults)

Little functional use of hands – need for assistance in ADL's

RECOMMENDATIONS:

Braces – standing and ambulation with appliances if possible

Sitting corset for scoliosis (to prevent further progression)

Orthopedic devices for feeding and writing

No contra-indication for swimming

Therapy: Range of motion for all joints; active assistive exercises for uppers

Wheelchair for distance if necessary

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY PARENTS:

Assistance for ADL's

Daily therapy at home

Sitting corset difficult to handle

Pressure sores from braces

Rheumatoid Arthritis – Disease in which inflamed joints are often accompanied by pain, swelling, and limitations in joint movement and weakness of muscles.

SYMPTOMS

EARLY STAGES

Fatigue, muscular stiffness, loss of appetite and weight, cold hands and feet, swelling of joints, nodules on skin.

LATER STAGES

Loss of joint motion resulting in flexion deformities and limitation in range of movement.

HOSPITALIZATIONS AND TREATMENTS

PHYSICAL THERAPY – ROM, active assistive exercises, progressive resistive exercises

Possible splinting of hands or other surgical measures

DRUGS – Aspirin, steroids (group of drugs related to cortisone which may be discontinued because of undesirable side effects), gold salts, and antimalarials (may bring about remissions after several months of treatment).

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS:

PROBLEMS:

Limitation in ADL, even restricting feeding and writing in some cases

RECOMMENDATIONS:

Diet, posture, avoidance of colds and dampness

No contra-indication for swimming

SUMMARY OF INFORMATION ABOUT CONGENITAL AMPUTEES (5)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Congenital Amputee – Children who are born with total or partial absence of a limb. (Also called reduction deformity).

HOSPITALIZATIONS AND TREATMENTS:

Depending on extent of deformity, prosthetic limbs are fitted.

Sometimes a surgical procedure may be done to facilitate fitting of a prosthetic.

As the child grows, new fittings are necessary so there is a possibility of repeated hospitalizations throughout their lives.

SPECIAL PROBLEMS AND RECOMMENDATIONS MADE BY DOCTORS:

Make sure area of limb that fits into prosthesis is protected from skin breakdown.

When prosthesis gets too small rubbing can cause skin irritation.

Use these prostheses.

SUMMARY OF INFORMATION ABOUT OSTEOGENESIS IMPERFECTA (6)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Osteogenesis Imperfecta – This condition, also known as "Brittle Bones", is an inherited disorder of development in the skeleton in which the calcium content is far below normal. The bones are excessively thin and subject to multiple fractures following even mild trauma. Children are usually smaller in stature because fractures often occur in the long bones of the lower extremities

Congenita: born with abnormalities and often many fractures.

Tarde: condition often not seen until the child starts to walk. Then fractures occur.

SUMMARY OF FINDINGS FROM SCHOOL RECORDS:

For the general understanding of teachers or aides who might be working with a student with Osteogenesis Imperfecta, we have summarized the findings of the records of our 14 students who have Osteogenesis Imperfecta.

SYMPTOMS:

Eyes – Blue Sclera

Teeth translucent with pearl-like appearance

Healed fractures, primarily of lower extremities

Bowing of long bones (Shepherd's Crook)

Short structure – disproportion between trunk and extremities due to frequent fractures

Megacephaly only apparent because of trunk size as seen in proportion to extremities

Generally underdeveloped physical appearance

Infantile behavior due to protection necessitated by brittle bones – infantile behavior in young children.

HOSPITALIZATIONS:

Fractures – some set in doctor's office; others requiring surgery

Rodding of femur and tibia to aid in the prevention of further fractures (some cases)

MEDICAL TREATMENTS NOTED IN RECORDS:

Calcitonin – Some cases

Therapy (various depending on each child)

A. Swimming
B. Ambulation training if possible
C. Exercise for ROM, muscle strength, etc.

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS:

Limitations set on Physical Education Activities

Fear of doctors and examinations

Immaturity and infantile behavior

Recommendations for therapy, rodding procedures, change in appliances or wheelchairs

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY PARENTS:

Fear of doctors

Fear of falling

Fear of fractures

Discomfor while in SPICA

Fear of being handled by people other than parents

SUMMARY OF INFORMATION ABOUT ACHONDROPLASIA (7)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Achondroplasia – A congenital disorder due to the conversion of cartilage to bone (frequently hereditary). Because of this, the growing ends or epiphyses, of the long bones of the limbs, are affected, and inadequate growth results in a type of dwarfism. Short well-porportioned body. Lordosis (curvature of the spine) often occurs, too.

SYMPTOMS:

Small size

Average achondroplastic attains a height of 50". Head is apt to be enlarged, although it appears relatively larger than it is because of small body size. Often bowing appearance to the legs.

Life expectancy is fairly normal.

HOSPITALIZATIONS AND TREATMENTS:

As they develop into middle life complications might possibly develop from their lordosis (abnormal curvature of the spine).

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS:

Biggest problem is adapting to a world of "normal" size people and being able to function in a world made for "normal" size people. This affects schooling, socialization, and employment opportunities.

SUMMARY OF INFORMATION ABOUT CONGENITAL CARDIAC CONDITIONS (8)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Congenital Cardiac Conditions – born with a defect of the heart. This may involve a defect of the valves or it may involve the great vessels. Some of these can be corrected by surgical procedures.

SYMPTOMS:

In some heart conditions children have cyanotic or bluish coloring to lips and nail beds, caused by lack of oxygen in blood stream.

Shortness of breath following a period of exertion

Generally smaller in stature

HOSPITALIZATIONS AND TREATMENTS:

Correction of defect

Treatment of complications of defect

Treatment of severe respiratory infection which might cause difficulty in breathing.

Often hospitalized for procedure to improve condition of blood.

Examinations of the heart (eg., catheterizations) to define exact area of defect.

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS:

More susceptible, probably to upper respiratory infections because of the way the body is affected by poor circulation and because of connection between heart and lungs.

Enlarged heart is common, because heart has to work twice as hard to accomplish its work.

Insufficiency of oxygen to brain may cause learning problems.

Problems related to circulation.

Extremes of temperature lower body resistance to infection. Therefore, air-conditioned building is better because temperature is more even.

May need to be more careful about overdoing.

Children with congenital heart disease are usually self-limiting in what they are able to do. This separates them from those who have an acquired heart disease and must be made to slow down and rest.

SUMMARY OF INFORMATION ABOUT HEMOPHILIA (9)

For the general understanding of teachers or aides who might be working with a student with this disability, we have compiled a general summary from the records of the students at Human Resources School. This information represents a variety of findings, since each student has his own physician and may have attended different hospitals or rehabilitation centers.

Therefore, two important points must be noted. One is that each child is different, and so is the severity of his disability. The other is that medical procedures and recommendations are constantly advancing and changing, and these findings represent only a summary of the past.

Hemophilia – Hereditary disorder transmitted by females but usually affecting only males. An abnormality in blood coagulation resulting in prolonged coagulation time and lowered prothrombin (clotting factor II) consumption.

SYMPTOMS:

Hemorrhage occurring either spontaneously or after trauma (injury)

Joint swelling

Ecchymotic areas of skin (discolored areas where blood has escaped into the tissue)

HOSPITALIZATIONS AND TREATMENTS:

Blood transfusions

Local hemostatis (arresting of escaping blood by means of compression or tying off blood vessels with ligature)

Administration of antihemophiliac globulin and albumin (plasma proteins).

SPECIAL PROBLEMS NOTED AND RECOMMENDATIONS MADE BY DOCTORS:

Avoidance of any trauma; precautions as far as activities are concerned.

Swimming only after consultation with physician and swimming instructor.

Physical Therapy (ROM) in some cases, but prohibited in others because of resulting hemoarthrosis.

LEARNING ACTIVITIES IN ENVIRONMENTAL AND COMMUNITY HEALTH AT HUMAN RESOURCES SCHOOL

I. Elementary Projects

The elementary students participated in projects for coping with the natural environment – the weather – in realistic ways.

The primary students chose a Weather Report and Prediction Committee which helped their group prepare for and cope with the weather by:

dressing appropriately and caring for their wheelchairs, braces, crutches, or prosthetics in rain or snow

heightening awareness of hazards caused by inclement weather

The intermediate students set up a weather station in which they measured and recorded inches of precipitation, daily temperature, and barometric pressure. They also made notations each day about the effect of air pollution and weather conditions on class members.

They participated in improving their environment. A visit to the town waste disposal facilities was followed by individual efforts to make their own neighborhoods clean and attractive. They learned to dispose properly of waste materials, including disposable diapers. They also planted flower seeds which they took home to beautify their neighborhoods. In addition, they evaluated their community environment for accessibility to people in wheelchairs and learned about buildings and facilities which are usable by disabled people.

They learned to become wise consumers of health services by practicing reporting their symptoms accurately. They also learned to take responsibility for caring for their appliances and wheelchairs themselves.

II. Secondary Activities

An emphasis on methods of coping with the environment, both man-made and natural, emerged. Students shared suggestions with each other about making practical adjustments.

They became familiar with sources of health information by writing to health organizations to learn about solutions to problems of disease and disability. The correlation of factors influencing birth defects and disability was studied as well as the treatments now possible for correcting or reducing the effects of birth defects.

They also concentrated on inviting guest speakers who are disabled and who can share experiences and knowledge of overcoming environmental and consumer health problems. Alumni were particularly helpful in sharing information about costs, rights, and agencies which are available to the handicapped.

EVALUATION

Ongoing evaluation and revision was done on each module.

The units included in each module are those evaluated by the teachers, students, and parents involved and given a rating of good (3), very good (4), or excellent (5), on the following items:

Relevance in fulfiling assessed needs

Helpfulness in improving students' health knowledge

Productiveness in establishing more positive attitudes

Motivation in developing good health habits

Evaluation of student learning was done by the students themselves by performance of the student self-evaluation activities. These activities gave each student the opportunity to demonstrate what he had learned in an enjoyable, non-competitive way.

The self-evaluation activities included in column three on each page are the ones rated good (3), very good (4), or excellent (5) by those who worked with them.

Evaluation of Elementary Program of Adjustment to Weather Conditions and Coping with the Environment

Teachers used the table printed with the activities on page 24 and kept a log on each member of the class.

In evaluating preparedness for the weather conditions, appropriate clothing depended on the disability problem. For example, students without feeling in some area must take care to protect that area from both cold and heat. Those with unstable autonomic nervous systems must have a jacket or sweater that can be removed or put on when their system does not react appropriately.

The teachers observed that the choice of clothing depended a great deal on the parents, so close school-home contacts had to be maintained. Helping the children to learn the reasons for the proper choice of clothing and care of appliances enabled them to take increasing responsibility for themselves as they got older, and resulted in heightened awareness on the part of those who cared for them.

The major improvement was in awareness among the children and willingness to wear what was provided by parents. Most of the parents supplied the best clothing that they could, but were not always economically able to have as wide a variety of jackets, etc. as might be advisable.

Evaluation of Secondary Environmental and Community Health Program

The questionnaire, printed on the activities page of the module, given before and after the environmental health program, served first as a basis for discussion and information-sharing, and, at the end, as a means of evaluating the expansion of ideas and knowledge among the students.

Responses to the Questionnaire Given at the End of the Same Project Indicate:

At the end of the program secondary students could suggest:

An average of 5 additional ways of coping with their environment.

An average of 6 additional agencies or other sources of help for the disabled.

85% could list laws that help the handicapped, compared to 25% on the first questionnaire.

90% made suggestions for changes in the environment to help the handicapped, compared to 50% on the first questionnaire.

Environmental and Community Health Modules

GRADES K - 6

ENVIRONMENTAL AND COMMUNITY HEALTH

Grades K-6

Special Topics in This Module	Objectives
ENVIRONMENTAL AND PUBLIC HEALTH	
I. Adjusting to Weather Conditions and Coping with the Environment	Learn to cope with the weather and the environment.
II. Participating in Improving the Environment	Participate in improving the environment.
WORLD HEALTH	
I. Benefits of Eliminating World Health Problems	
A. Roles of UNICEF and WHO	Learn how eliminating world health problems benefits you.
CONSUMER HEALTH	
I. Becoming a Wise Consumer of Health Services	Become a wise consumer of health services:
A. Reporting Health Problems Accurately	Report health problems accurately.
B. Following Physician's Orders	Follow physician's orders.
C. Caring for Appliances or Health Aids Properly	Care for appliances or health aids properly.
D. Getting Maximum Efficiency From Braces and Wheelchairs	Learn how to care for braces and wheelchairs.

Students at Human Resources School use a Weather Station to Study the Environment

50

BACKGROUND INFORMATION K-6

I. Adjusting to Weather Conditions and Coping with the Environment

General – Trips which develop independence can also heighten awareness of the environment and the knowledge of how to cope with normal environmental hazards to wheelchairs, braces and crutches. Trips of longer duration should provide experiences which could not be duplicated in the classroom or on shorter trips – for example: sleeping away from home, e.g., summer camp, anticipating and coping with dressing and toileting problems; responsibility for one's own luggage and belongings; asking for directions in a strange town.

Snow and rain present a special problem to children in wheelchairs. Using two hands for pushing makes it impossible for them to hold an umbrella, so they will probably arrive at school wet. Proper wet weather gear and head coverings are a must. Wheelchairs and braces must be carefully dried to keep them in good condition.

On wintry days it is especially important for children who use wheelchairs or metal crutches to wear gloves. The steel in the braces becomes very cold in the cold weather, so warm clothes are a must. When walking with braces and crutches, or a walker, avoid ice patches on sidewalks or streets.

Wheelchair students – when playing in snow should wear appropriate clothing. Avoid getting chilled if the child gets wet. Go in when excessively wet from snow or from incontinence. Sit in a wheelchair or on a chair and build snowman rather than sitting in the snow. Keep wheelchair out of deep snow because it is difficult to move.

Heat is especially uncomfortable for children who wear braces. Those who walk with appliances use up a great deal of energy and tend to feel the heat acutely. Light clothing of cotton or other natural fibers allows the skin to "breathe" and will keep them as cool as possible.

1. **Dysautonomia** – Children with dysautonomia should have extra clothes at school not only in case they are wet from rain or snow, but also for times when fluctuations in body temperature leave them soaked from perspiration. They will not always feel dampness on their clothes. Because of labile blood pressure, exposure to hot sun should be avoided. Sweaters are advised as part of the daily clothing for dysautonomic children who may become cold while at school. Air conditioned buildings and cars are recommended especially during the summer months.

2. **Spina Bifida** – Because they have diminished sensation in their lower extremities Spina Bifida children won't always feel dampness on their clothes or wheelchair seats. They may feel the cold less because of the energy they expend using heavy appliances. However, a blanket over their legs in winter when travelling out of doors is important.

3. **Muscular Dystrophy** – The increased inability to move about even within their wheelchairs may cause older MDs to feel the cold more and more. All children, walking or wheelchair-bound, must be protected from chills to prevent dangerous respiratory infections.

4. **Arthrogryposis** – Children with stiffened limbs may feel the cold less because of the energy they expend walking and using their arms for reaching and grasping. Their jackets should fit loosely enough to be put on easily over rigid elbow joints.

5. **Congential Amputee** – Many people wear woolen stump socks under prostheses and feel the heat acutely. Because of energy expenditure in walking on artificial limbs or carrying objects with arm devices they may not feel the cold like others. Sunburn is most painful under any prosthesis, so caution must be taken to protect stumps from overexposure on hot days.

They should know how to put on and take off artificial limbs. It is dangerous to crawl or scoot about the floor on the buttocks because of abrasions causing additional problems when wearing prosthesis.

6. **Osteogenesis Imperfecta** – Children with casts on legs or arms must be especially careful about getting them wet on rainy or snowy days. In cold weather they should wear warm coverings over fingers and toes exposed by casts.

8. **Congenital Cardiac Conditions** – Because of poor circulation cardiac children may feel cold and dampness more than others. In summer they should take care to protect themselves from overexposure to the sun and high humidity. Air conditioned buildings and cars are recommended.

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
ENVIRONMENTAL AND PUBLIC HEALTH **I. Adjusting to Weather Conditions and Coping with the Environment** **Objective:** Learn to cope with the weather and the environment. 1. Planning ahead can help a disabled person to cope with the weather and the environment.	1. Elect a committee to survey the school and suggest ways of improving the school environment. 2. Elect a committee to give the weather report and weather prediction and to ask for and make suggestions for preparing for and coping with the weather in dressing, traveling, making alternate plans for weekends, caring for wheelchairs, crutches, etc. in rain and snow, heightening awareness of hazards caused by inclement weather, avoiding over-strenuous activities on very hot, humid days.	1. Plan two trips – one short trip to a farm, or to a state or county park, and one long one to visit a point of interest in another city. Write to each place several months in advance and inquire about accessibility and accommodations. 2. On your bulletin board post a chart with each classmate's name. Once a week give a check mark for the appropriateness of each student's clothing and care of his wheelchair, braces, crutches, or prosthetics for that day's weather conditions according to the following plan:

PREPARED FOR THE WEATHER CONDITIONS

Name	Date	Head and Ears	Hands	Body	Legs and Feet	Care of Appliances

BACKGROUND INFORMATION K-6

II. Participating in Improving the Environment

General – Ecology depends on environmental conditions. Healthful environment makes for better living conditions for everyone. The interdependence of people needs to be emphasized because the health of one person affects all those around him in his family and his community. The disabled individual must learn to maintain his own health in order to be a participant in society and not to be a burden on mankind.

A healthy person benefits all mankind, not only himself.

The parents and the community who want the child to develop self-sufficiency must be willing to expend effort during the learning years.

The physically disabled should be aware of the impact that disposable articles have on the environment.

1. **Dysautonomia** – Diminished sensation may prolong toilet training but children should eventually be able to control bladder and bowel movements. They are able to take care of their toileting needs independently.

2. **Spina Bifida** – Diapers are necessary because of bowel and bladder control. Older girls can have a surgical procedure (a diversionary ileal conduit) performed so they can wear a urine collecting bag. Boys are able to wear a collecting device without prior surgery. Both sexes can use suppositories for bowel maintenance later in life.

3. **Muscular Dystrophy** – As muscle weakness progresses children require more and more help in using the bathroom, finally becoming totally dependent for their toileting needs. They do maintain bowel and bladder control and are able to ask for assistance.

4. **Arthrogryposis** – Because of joint stiffness children may need help in the bathroom, especially with their clothing. They do have bowel and bladder control and can ask for assistance.

5. **Congenital Amputee** – Children may need help in the bathroom depending on the nature of their deformities. They do have bowel and bladder control and can ask for help if they need it.

6. **Osteogenesis Imperfecta** – Children in casts may have to use a bedpan or get help when using the bathroom. They have bowel and bladder control and are able to ask for the necessary assistance.

7. **Achondroplasia** – Toilet and sink heights may cause problems for children who are not tall enough to reach them. They have bowel and bladder control and should be able to manage their toileting needs independently. They can use a stool or ask for help if there is nothing available for them to stand on.

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
	3. Set up a weather station. Collect, measure and record: inches of rain, snow; daily temperature; daily barometric pressure; visibility; pollen count (call local air quality center). By telephoning, check and compare your findings with those of the local weather bureau. Also check the newspaper and TV reports. As you go to and from school observe the effects of the weather on the conditions of the roads, sidewalks, the garbage, the traffic.	3. Each day make a notation about whether the air quality or the conditions caused by the weather had any effects on anyone in the class. Form a committee to investigate and list ways to improve the quality of the air and the conditions caused by the weather. Send a copy of your report to your town supervisor or mayor.
II. Participating in Improving the Environment **Objective:** Participate in improving the environment.		
1. Physically disabled children can help to improve their environment.	1. Have a campaign to improve your neighborhood environment. Take a field trip to the town incinerator or waste disposal facility and find out how your environment is kept sanitary. Ask the person in charge for suggestions about what you could do to help keep the neighborhood clean.	1. Plant flower seeds in class and take them home for transplanting when they are seedlings.
	2. Discuss what you would do in your community to improve the environment for people using wheelchairs.	2. Have a "clean-up-the-school-day" and form committees to work on the outside and inside to make it more beautiful and more healthful.
	3. Find out who plans your city architecturally. Invite someone from the City Planning Office to your class and discuss your ideas on improving your community for the physically disabled.	3. Evaluate your community, its accessibility for persons using wheelchairs, walking with crutches or a walker.
	4. Investigate appropriate ways of disposing of disposable diapers. Shop for the most effective room deodorizer. Discuss the importance of personal deodorants.	

World Health

General – While the functions of WHO are aimed primarily at disseminating health information, enacting measures for the control of epidemic and endemic disease, and strengthening and expanding the public health administrations of member nations, their work can affect the incidence of physical disability in the world.

Improvement in maternal and children's nutrition will eliminate disabilities resulting from malnutrition or vitamin deficiencies.

Improved pre-natal care will eliminate some birth defects and birth-related disabilities.

Knowledge of treatment methods will reduce the crippling effects of diseases or orthopedic conditions.

The international sharing of data on diseases and causes of death may shed light on factors which cause certain disabilities and stimulate medical research.

Establishment of international pharmaceutical standards could be helpful to people with chronic illness who depend on medication.

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
World Health **I. Benefits of Eliminating World Health Problems.** **A. Roles of UNICEF and WHO** **Objective:** Learn how eliminating world health problems benefits you. 1. Eliminating world health problems benefits you.	1. Study the roles of UNICEF and WHO.	1. Make a film strip, chart, or report to show how either UNICEF or WHO has done work that benefited you.

BACKGROUND INFORMATION K-6

1. Becoming a Wise Consumer of Health Services

General – All children should be guided toward this end but more emphasis should be placed on the instruction and guidance given to children who have a chronic illness and throughout life have to seek medical help, and buy drugs and appliances in order to survive.

A. Reporting Health Problems Accurately

1. Dysautonomia – A very young child could be taught to tell his mother when a problem arises. They need to learn that telling how they really feel is very important. With these children it is important to know what symptoms are actually there and what symptoms are really not happening. The earlier children realize the importance of the truth about their physical state the better off they are. Mothers have to help them to develop an awareness of themselves which will build self confidence so they will be more accurate in reporting their symptoms. Knowing their mother cares and that she will do what she can to relieve their symptoms helps them to gain confidence in her behavior also.

The simpler the explanation of the doctor's orders, the more able the young child is to understand and accept the orders. These children are immature but can be helpful in reporting accurately if parents and doctors have been honest.

2. Spina Bifida – These children also have specific symptoms that can indicate a problem and should know and understand which are important to tell mother about and which have less of an importance. Another area is that children with a diminished sensation in their lower extremities should learn to report any trauma to these areas to their mother and she can decide if it needs further attention. In school, it is necessary to know this also so that the injured limb can be observed by the nurse-teacher and an accurate report can be given to the mother.

8. Congenital Cardiac Conditions – Helping these children to recognize their limitations is important for their well-being. Reporting other symptoms accurately will help others in seeking medical advice when it is really needed.

9. Hemophilia – Keeping others informed when a bleeding episode starts is of vital importance for this child's well-being. Often the young children will say they have a "funny feeling" in a particular joint. As they mature they usually describe it as "painful."

C. Caring for Appliances or Health Aids Properly

General – Children with physically disabling conditions who rely on appliances or health aids should learn as soon as they start using or wearing an appliance, prosthetic or health aid how to care for it if they are physically able. If they are not physically able they still should learn so they can instruct those who help them. If the children are given such a responsibility regarding the appliance, they will be more interested in learning about its care and keeping it in good order. The applicances might include: pair of crutches; wheelchair; braces; artifical limb (prosthesis).

5. Congenital Amputee –

1. Do not let others handle or play with prosthetic when it is off.
2. Do not let others hit "leg" when it is on. They can hurt themselves or you.
3. Do not let prosthetic get wet. It can deteriorate if abused.
4. If shoe wears on prosthetic (e.g., sole is coming off) tell parent, or teacher even though you can't "feel it."

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
CONSUMER HEALTH **I. Becoming A Wise Consumer of Health Services.** **Objectives:** Be honest in reporting your symptoms. Be sure you understand what the doctor orders. Learn how to care for appliances or health aids. Learn how to care for braces and wheelchairs. 1. Wise Consumers of Health Services: A. Report Health Problems Accurately B. Follow Physician's Orders C. Care for Appliances or Health Aids Properly D. Get Maximum Efficiency from Braces and Wheelchairs	A1. Practice reporting your symptoms as you would tell your doctor, i.e.: temperature appetite sleep bowel and bladder function A2. Discuss why it is important that you report your symptoms accurately and honestly. B1. Give three reasons why you should follow your doctor's orders exactly. B2. Invite the school physician to answer questions and discuss his concern about his patients. C1. Develop a booklet on the care and maintenance of your particular appliance. C2. Invite the physical therapist to demonstrate the special areas of your appliance that you should check first, and tell you how often to check them. D1. Discuss the reasons for the following rules: 1) keep equipment clean 2) follow the maintenance schedule 3) anticipate problems by storing spare parts (spokes or even spare wheel for wheelchair) 4) Check on the most common problems with wheelchairs: brakes, loose bolts on wheels, footrests, and back of seat; loose spokes.	C1. Plan a bulletin board display of the information to share with school mates. Present the information to another class. C2. Find out the cost of any mechanical aids or appliances you have. Learn the rules for using them and caring for them properly.

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
	D2. Learn where to go to get your braces and/or wheelchair repaired. Find out how it should be done to be repaired correctly. D3. Learn to take proper care of your wheelchair by spotting repair problems, avoiding abuse to the chair, and learning proper use over sills, and up and down curbs. (Use a wheelchair to demonstrate these rules.) D4. Make and display charts showing and labeling parts to be aware of. D5. Practice using chair in a structured situation. Rest of children watch and find what is incorrect/ correct. D6. Make a film strip that shows how we use wheelchairs correctly. Show to classmates. Comment and discuss.	

Environmental and Community Health Modules

GRADES 7 - 12

ENVIRONMENTAL AND COMMUNITY HEALTH

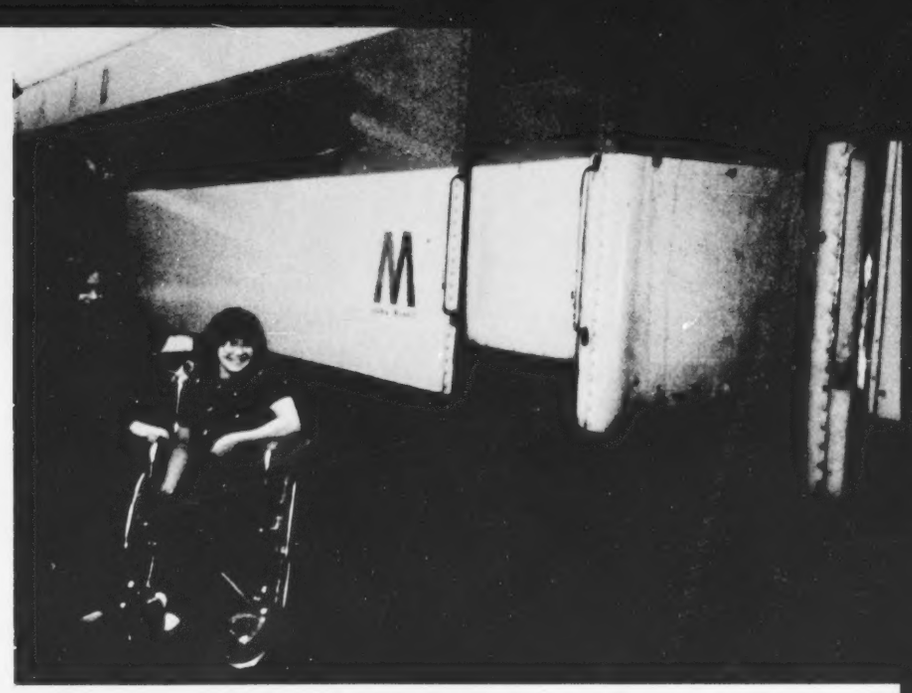
Grades 7-12

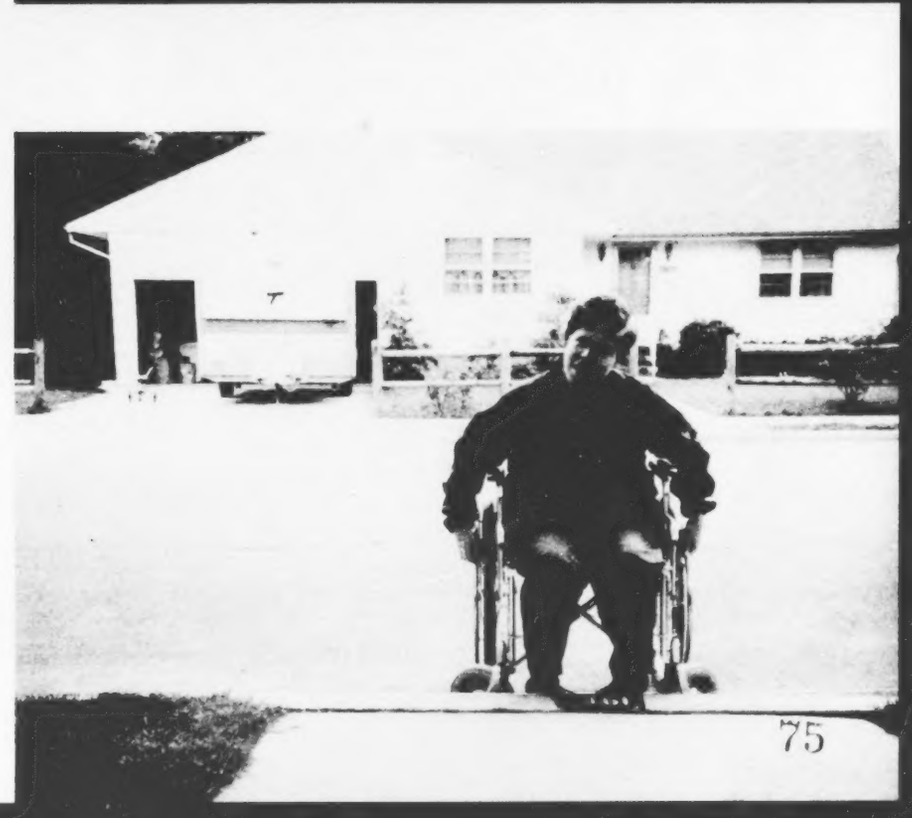
Special Topics in This Module	Objectives
ENVIRONMENTAL AND PUBLIC HEALTH	
I. Coping with Problems the Environment Poses to Persons with Disabilities	Find ways to cope with special environmental problems.
II. Public Health Practices and Solutions to Chronic and Degenerative Diseases and Genetic Defects	Learn which public health practices have led to solutions to chronic and degenerative diseases and genetic defects.
WORLD HEALTH	
I. Health Organizations: a Source of Information	Become familiar with sources of health information.
ECOLOGY AND EPIDEMIOLOGY OF HEALTH	
I. Correlation of Factors Influencing Health, Disease, Defect, Disability, and Death.	Analyze factors which interact to affect health or disability.
II. Hereditary, Congenital, and Familial Defects	Understand the meaning of hereditary, congenital, and familial defects.
CONSUMER HEALTH	
I. Quackery and Quacks	Be aware of and avoid quackery.
II. Wise Consumers of Health Services	Choose and use the correct health specialists.
III. Help Available for the Physically Disabled	Investigate and use the help available for the physically disabled.

ARCHITECTURAL BARRIERS

Pictures Posed by

Human Resources School Students





BACKGROUND INFORMATION 7-12

I. Coping with Problems the Environment Poses to Persons with Disabilities

General – Responses to the questionnaire indicated that:

Most students have not found ways of coping with revolving doors.
Many have not found ways of coping with heavy doors, except to ask someone else to open them.
Most do not travel by public bus, railroad, or subway.

Most manage stairs with the help of one or more other people.
Most travel by car.
Most attend recreational activities with the help of one or more other people.

Methods of coping if they do:

Get carried – "My father or brother carry me." "My parents help me up."
"People open it."
"I hop."
"I crawl or get pulled up in my wheelchair."
"I pop-a-wheely."
"Go with someone, take my time, be careful, hold on – but manage very well."
"I use my arms – I have strong arms."

Suggestions:

Allow a longer time interval for traffic lights, to allow more time to get across street.
Islands in the middle of the street for people to wait if they can't get across the whole street, having to wait until the light changes again.
Have a section in movie theaters with room for wheelchairs.
Have ramps at entrances.
Adapted curbs.

Agencies:

Most listed the special association for their disability.

Strategies for managing indoor stairs yourself:

1. go up and down on your buttocks
2. crawling on hands and knees
3. pop-a-wheely and pull (for a few steps)
4. stairglides – there is also one for wheelchairs.

Strategy for managing stairs with help:

Someone else can pull you up and down on a blanket

Strategies for managing outdoor stairs:
hydraulic lifts
metal or cement ramps
(one family bought tracks from a railroad yard to use for a ramp into their van)

There are zoning laws against ramps in front of homes in some towns.

3. Muscular Dystrophy – A motorized chair might change a young person's whole personality. It is important for their self-image that they can experience some feeling of independence and control over their own movements.

For a list of standards as established by the American Standards Association, that organization may be contacted at 10 East 40th Street, New York, New York.

These standards taken from *Wheelchair to Independence*, are presented for voluntary use by all who are desirous of improving facilities in buildings so that they are accessible to, and usable by, the physically disabled. The following are the essential elements of the specifications:

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
I. Coping with Problems the Environment Poses to Persons with Disabilities **Objective:** Find ways to cope with special environmental problems. 1. There are ways to cope with problems the environment poses for persons with disabilities.	1. Ask each student to answer the following questionnaire (see page 36) as fully as possible. Then share the experiences and methods and sources of help suggested. At the end of the sharing lessons ask each student to add any new ideas and information he has obtained from his classmates.	

RECOMMENDED STANDARDS

These apply to public buildings, not private residences

1. WHEELCHAIR FACTS. The following must be considered:
   a. For a turn of 360 degrees, a minimum of 54 inches is required. A space of at least 56 x 63 inches is desirable for the average chair.
   b. Average wheelchair dimensions.
      (1) Length – 42 inches
      (2) Width – 25 inches (open), 11 inches (folded)
      (3) Height of pusher handles from floor – 36 inches
      (4) Height of seat from floor – 20 inches
   c. Average adult reach from a wheelchair
      (1) Vertically – 60 inches
      (2) Horizontally – 30 inches
      (3) Diagonally – 48 inches from the floor.

2. BUILDING SITE. There should be at least one ground-level entrance. This may require grading of the land.

3. AREA WALKS
   a. Should have a nonslip surface
   b. Average width – 48 inches
   c. Grade – less than 5 degrees
   d. Long or graded walks should have level surfaces at intervals for rest and safety
   e. Intersecting walks should meet at the same level
   f. If a door swings onto a walk, there should be a level space for its safe clearance of at least 5 x 5 feet. If the door does not swing toward the walk, a level platform 3 feet deep by 5 feet wide is adequate.
      (1) The platform should extend at least 1 foot beyond each side of the doorway.

4. VEHICULAR PARKING SPACES. These should be established as close as possible to the facility.
   a. Terrain should be smooth and level for safe use by wheelchair occupants
   b. Each parking space should be about 12 feet wide
   c. Parking lots should be constructed so as to avoid the necessity of patrons having to wheel behind other parked cars
   d. Spaces created for the use of disabled should be clearly identified and reserved for their exclusive use

5. RAMPS. These should replace steps when feasible.
   a. Their slope should not exceed a rise of 1 foot in 12 feet, or 8 degrees
   b. Handrails on both sides are desirable although a rail on one side is adequate. Rails should be about 32 inches above the ramp.
   c. The ramp surface should be nonslip.
      (1) A simple way to accomplish this is to pock-mark the ramp. If it is made of cement, the bristles of a broom jabbed into the wet concrete will do the trick. Wooden ramps may be roughened by ordinary carpenter's tools, very coarse sandpaper, or sand sprinkled on wet-paint surface.
   d. There should be no less than 6 feet of level clearance at the bottom; if the ramp is very long there should be level platforms at intervals of 25 to 30 feet for rest and safety.
      (1) There should also be level platforms at the top, similar to specification 3 (f) above, relating to WALKS.

6. DOORS. These recommendations apply to exterior and interior doorways.
   a. Door clearance should be at least 32 inches.
   b. Two-leaf doors are not convenient and should be avoided unless they may be operated easily by a single effort.
   c. Automatically operated doors are excellent.
   d. Time-delay closers are suggested.
   e. Long bars instead of knobs for pulling doors are very helpful.
   f. If doors swing inward and out, visibility should be permitted on both sides.
   g. Revolving doors are not usable by many persons.
   h. All major egress doors should swing out with slight pressure on the release lever.
      (1) This mechanism is also know as a "panic bar."
   i. Kick plates of a protective material should be attached to the bottom part of the door to protect it from abuse by contact with wheelchair footrests.

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS

Have you found ways of coping with the environment in each of the following circumstances?

		YES	NO	HOW DO YOU COPE?
Buildings:				
Do you manage	stairs			
	steps at entrance			
	heavy doors			
	revolving doors			
Getting around				
Do you ever travel by	public bus			
	railroad			
	subway			
	plane			
	taxi			
	car			
Do you go	shopping			
	to church or temple			
Recreational events:				
Do you attend	movies			
	restaurants			
	concerts			
	big league sports events			
	parties			
	other			

List all the health agencies which could be of help to you in coping with your disability:

List all other agencies which could be of help to you in coping with your disability:

What laws are in effect to help handicapped people?

on a local level: on a state level: on a federal level:

Give your suggestions for changes that could be made in the environment to benefit the physically handicapped.

j. Door sills should be level with the floor whenever possible.
k. The floor should be level for at least 5 feet from the door in the direction that it swings and should extend a foot beyond each side to the door.
l. Door checks should be selected, set, and installed with great care, so that they will not make the door "too heavy" for use by the disabled.

7. FLOORS.
   a. Surface should be nonslip.
   b. Floors on any given story should be at the same level or connected by a ramp.
      (1) See 5 above for RAMP specifications.

8. RESTROOMS (TOILET FACILITIES). These should be sufficient in number and usable by wheelchair occupants.
   a. At least one stall should be 3 feet wide and 5 feet deep, or larger.
   b. Seat should be at least 20 inches from the floor.
   c. Grip rails, running horizontally 33 inches above the floor, should be fastened firmly on each side of the commode.
      (1) There should be 1½ inches clearance between the wall and rail.
   d. If the stall has a door, it should be at least 33 inches wide and should swing outward.
   e. A wall-mounted commode with a narrow understructure will permit a wheelchair occupant to approach it closely and is most desirable.
      (1) Also enables cleaning beneath the bowl, resulting in better sanitary conditions.
   f. The floor-mounted "john" should be shallow in the front in such a manner as to allow close approach by one in a wheelchair.
   g. Wash basins should have no obstructions beneath so that a wheelchair-user's knees may fit under.
   h. Mirrors, shelves, towel racks and soap dishes should be no more than 40 inches above the floor.
   i. Drainpipes and hot water pipes should be covered to prevent those who may touch them from being burned.

9. WATER FOUNTAINS. There should be an adequate number of these on each floor, conveniently placed for easy use by the disabled.

   a. These should be hand operated, with spouts and controls up front.
   b. Fully recessed coolers are not recommended, nor are fountains set in alcoves – unless the alcove is wide enough for a wheelchair.

10. PUBLIC TELEPHONES.
   a. There should be an adequate number of phones on each floor, and all should be easily usable by wheelchair occupants.
      (1) The dial and handset should be low enough for convenient use.
      (2) Booths should be wide enough to admit a wheelchair, or at least to permit close approach by its occupant.
      (3) Special problems should be discussed with the telephone company, which will cooperate to the maximum so that all may readily use the telephone equipment.

11. ELEVATORS. These are necessary in multi-story structures.
   a. These should be easily accessible from entry by a wheelchair-user and ample in size.
   b. Controls should be within reach of one seated in a wheelchair.
   c. In addition to an emergency alarm button, a telephone inside the elevator is an added security factor.

12. SWITCHES AND CONTROLS. These, in general include lights, thermostats, alarms, windows, and draperies.
   a. All should be easily reached and operated by one seated in a wheelchair.

13. HAZARDS. Efforts should be made to obviate them.
   a. Openings in floors and pavements should be avoided.
   b. Low-hanging signs and lighting fixtures should be eliminated.
      (1) No objects should protrude into trafficked areas or corridors in regular use unless they are at least 6½ feet above the floor.
   c. Grilled radiators are recommended to prevent burns resulting from contact with such a heating device.

14. LIGHTING. Should be ample to illuminate all work areas adequately.
   a. Ramps and walks should be well illuminated.
   b. Exit signs should be clearly visible.

Quoted from *Wheelchair to Independence* p. 78-80

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
2. A motorized wheelchair can help a person with weak arms to move independently from place to place.	1. Investigate the cost and uses of a motorized wheelchair. 2. Investigate other motorized vehicles for getting around where long distances would make a problem in terms of time or effort.	
II. Public Health Practices and Solutions to Chronic Degenerative Diseases and Genetic Defects **Objective:** Learn which public health practices have led to solutions to chronic and degenerative diseases and genetic defects.		
1. Public health practices have led to solutions to some chronic and degenerative diseases and genetic defects.	1. Investigate and do a research report to explain how public health practices lead to solutions to chronic and degenerative diseases and genetic defects. 2. Send for material from the National Foundation – March of Dimes which explains how maternal drug abuse, alcoholism, malnutrition, or disease can cause birth defects.	1. Invite a medical researcher to explain his work in studying the detection and causes of genetic defects. 2. Discuss the role of genetic counseling in this program. Discuss your reaction to the findings and to the place of genetic counseling in a genetic defects program.

BACKGROUND INFORMATION 7-12

II. Public Health Practices and Solutions to Chronic and Degenerative Diseases and Genetic Defects

General – The Public Health Practices which are important for the physically disabled students to know are programs relating to genetic counseling, birth control, prenatal care, and communicable diseases.

The students who have disabling conditions that are the result of genetic factors are:

Muscular Dystrophy – Duchenne type
Hemophilia
Dysautonomia
Achondroplasia
Sickle Cell Anemia
Thalessemia
Spina Bifida
Hydrocephalus
Spinal Ataxia

More information on the specific hereditary picture can be found in the 10-12 Mental Health Module, Human Development and Disability section.

I. Health Organizations: A Source of Information

General – The following associations are active in several areas related to specific conditions. An investigation of the associations' activities might open up a world-wide interest and initiate the formation of a task force.

Dysautonomia Association, Inc.
Muscular Dystrophy Association of America
Arthrogryposis Association
National Hemophilia Foundation
Osteogenesis Imperfecta Foundation, Inc.
The Arthritis Foundation
American Heart Association
United Cerebral Palsy Association
U.S. Dept. of Health, Education, and Welfare
Paralyzed Veterans of America
Spina Bifida Association
National Easter Seals Society
National Foundation – March of Dimes

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
WORLD HEALTH **I. Health Organizations: A Source of Information.** **Objective:** Become familiar with sources of health information. 1. Sharing of health information and elimination of world health problems benefits people everywhere.	1. Study the roles of UNICEF and WHO and world health programs in: Communicable diseases Nutritional deficiencies Enteric conditions Mental and emotional disorders Treatment and care of the physically disabled	1. Write to Health Organizations for information on these diseases or disorders. After gathering information hold a forum to decide what your group can do to become involved in solutions to world health problems.

I. Correlation of Factors Influencing Health, Disease, Defect, Disability, and Death

General – In general all students with a physically disabling condition should be cognizant of the preventative methods in controlling communicable diseases. As part of the epidemiology of health, the students should know and understand the importance of immunizations in controlling communicable diseases. Being properly immunized will protect the students from illness which could cause complications related to their primary disability.

1. Dysautonomia, 3. Muscular Dystrophy – Students with a disability that affects their respiratory system should realize that they have a stake in the ecological picture of the world. Because of their physical immobility, they cannot move to another environment as readily as other people. By helping to improve the environment they will help themselves to live a healthier life.

II. Hereditary, Congenital, and Familial Defects

General – Physical disabilities which are inherited are:

Familial Dysautonomia
Muscular Dystrophy (Duchenne)
Hemophilia
Sickle Cell Anemia
Thalessemia

Hereditary refers to inherited defects

Congenital refers to a defect with which one is born, regardless of whether it was caused by heredity or environment.

Familial refers to defects which seem to occur more frequently in groups of persons of common ancestry who come originally from a particular geographical area.

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
Ecology and Epidemiology of Health		
I. Correlation of Factors Influencing Health, Disease, Defect, Disability, and Death		
Objective: Analyze 3 or 4 factors which interact to affect health or disability.		
1. Frequently, a number of factors affect health.	1. Discuss how these specific factors can affect the life of a person with a respiratory problem: A. Environmental B. Physical Condition C. Public Health Policy 2. Discuss why these factors should be known if a person has a disability he/she has inherited. A. Genetics B. Sociological C. Research findings D. Psychological	
II. Hereditary, Congenital, and Familial Defects.		
Objective: Understand the meaning of hereditary, congenital, and familial defects.		
1. Knowledge about prevention and treatment of birth defects can be increased.	1. Look up the definitions of hereditary, congenital, and familial defects.	1. Prepare and conduct a symposium on overcoming birth defects problems. Speakers should include the following topics:

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
	Write to the National Foundation for information on the following reasons why birth defects happen: a) hereditary factors b) gene defects or chromosomal errors c) environment influences: viruses drugs radition inadequate maternal diet and health d) Interaction of heredity and environment.	A. How proper diet, good health habits, and medical care, and maintaining normal weight help parents and their potential children to be healthy. B. Vaccines against rubella and Rh incompatibility disease. C. Treatment to prevent crippling effects of birth defects. Birth defects can be corrected or reduced in severity by: surgical procedures for orthopedic malformations controlling body chemistry defects by diet or medication fetology – the diagnosis and treatment of some conditions in an unborn baby.

BACKGROUND INFORMATION 7-12

I. Quackery and Quacks

General – Motives for going to quacks –
Pressure put on parents and children to find a "quick cure"
Despair
Feelings of helplessness

2. Spina Bifida – Importance of proper fitting by brace-maker. Otherwise braces are not helpful. Crutches must be proper to stabilize the walk and avoid strain.

Paraplegics and quadriplegics – looking for potency and for help in having children.

3. Muscular Dystrophy – Since Duchenne Muscular Dystrophy is a progressively debilitating disease for which no medical cure has been proven, clinics offering "miraculous" cures might be sought.

4. Arthritis – Copper bracelets are mistakenly thought to relieve arthritis.

5. Congenital Amputee – You can't mass-produce prosthetic devices, so fitting is the most important aspect of functioning. They cannot be bought without proper fittings.

II. Wise Consumers of Health Services

General – Emphasis on getting qualified medical help. Health Professionals are state licensed or certified. For the physically disabled teen-agers; well meaning people may try to influence, encourage, or coerce them into a program or to go to someone who is not appropriately trained to treat their particular problem.

A source of help to the teenagers is via a parent group involved with their disability. Often there is a teen group to join and share experiences with which has a professional consultant for many areas including health care. (i.e., Spina Bifida Association Teen Group)

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
I. Quackery and Quacks **Objective:** Be aware of and avoid quackery.		
1. One can avoid the special quackery to which disabled people might be vulnerable.	1. Discuss the costs and dangers of self-medication. Discuss how self-medication or consulting the wrong help may delay getting needed help for a medical problem.	1. Discuss how deceptive advice or treatment might be involved in: Faith healing Acupuncture Food-fads Cure-alls Prosthetics and Orthotics Chiropractic
II. Wise Consumers of Health Services **Objective:** Choose and use the correct health specialists and services.		
1. The wise consumer of health services knows and uses the correct specialist for his medical needs.	1. Hold a consumer information day. Have exhibits to demonstrate the following consumer advice: Know and consult the following specialists when buying special equipment: Wheelchair or canes – physiatrist or physical therapist Braces – Orthotist Prostheses – Prosthetist Buy medical equipment only with the advice and prescription of a physician. Get and understand the warranty. Comparison shop. Don't buy a device from a catalogue unless you have consulted with someone with adequate knowledge.	1. Ask your school physician or a representative of the American Medical Association to explain how medical professionals are licensed or certified by the state.

III. HELP AVAILABLE FOR THE PHYSICALLY DISABLED

I. Health Department

Provides help for physically handicapped persons under 21 years of age. The goal is to detect early physical disability and to help to relieve social or financial burden on the family.

Provides medical service. This means: surgical, medical or therapeutic treatments, hospital care, appliances and devices necessary to assist in rehabilitation or control of disease or disability. (The Shaw Bill – provides assistance for any individual who has had polio, no matter what his age.)

If an individual meets *Medicaid* standards, all medical services can be provided by the Health Department.

Private physicians can request a consultation with a health department specialist to determine a diagnosis under the Physically Handicapped Children's Program *free!*

If an individual does not meet Medicaid standards he may still be eligible for partial services through *Supplemental Medical Rehabilitation.* Here again aid is dependent on family income (slightly higher income allowed).

Medicaid – based on family income. Provides for total medical needs: Physicians, drugs, home care, hospitalization, X-rays.

II. Office of Vocational Rehabilitation – provides service starting at age 16 only if you are not in an educational or vocational program. Otherwise, after graduation.

Requires medical and psychological diagnostic evaluation which they pay for before you become eligible for service based on family income.

OVR physician must determine that your disability is such that you qualify for their services.

OVR will provide education and vocational training. It provides evaluation prior to training – based on realistic goals. Client and counselor make a yearly contract to pursue a definite goal.

Money given toward education is determined by family income – minimum will still be $650 a year. If there is financial need OVR will pay for whatever college you qualify for. Transportation costs are provided no *matter what* the family income is. Public transportation will be paid for if there is financial need. Books and dormitory fees – based on need.

Payment for dormitory – based on income. If living in a dorm requires an attendant, they provide one based on income.

If you receive Medicaid and SSI – OVR pays for all college expenses.

If not interested in college, they evaluate and train you.

Health department pays medical services to age 21. OVR pays for medical services and any other equipment after 21, if it will make a person vocationally useful and independent.

If you are rehabilitated and employed, your case is closed, but a case can be reopened whenever the need returns. If you get worse you will be reevaluated and retrained. (Severely physically handicapped come first)

When you get a job but later lose it you can be retrained, etc. by OVR – They are always there.

If you go into an evaluation and training program and cannot be trained (for any reasons), they would recommend a sheltered workshop or home work (they will equip or adapt your home for this) or homebound living.

If you cannot compete (be as productive as quickly, or fulfill all the qualifications as well as the average person) there is sheltered employment which pays for the amount of work you can do, and income is supplemented by Social Security or Social Service.

If you can only work in your own home, they help by adapting it and buying special equipment.

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
	2. Analyze advertising for medical care; gadgetry, cures, etc.	2. Discuss with your teacher and ask your physician's opinion of the following methods of choosing a physician, a psychologist, a physical therapist: a. Call your local office of the AMA or the Mental Health Association. b. Ask your family physician for a referral. c. Call your local hospital or clinic. d. Ask a friend. Then rate each method.
III. Help Available for the Physically Disabled **Objective:** Investigate and use the help available for the physically disabled.	Review your rights in each of the following areas: 1. Human Rights – Commission on Human Rights – helps to overcome discrimination in housing, employment, type of service received in places of public accommodation, like hotels, movies, restaurants. In housing – all residential structures, five stories and more, built after September 1971, must have level or ramped entries and 32 inch doorways. Office buildings built after 1970 must have level entries, bathrooms, phones. 2. Job Training – The Office of Vocational Rehabilitation may pay for evaluation and training of a disabled adult who can be trained to be employable.	Invite guest speakers to explain the help that is available to disabled people through: The Health Department Medicaid The Office of Vocational Rehabilitation Social Security Supplemental Security Income Associations (disability-related) Social Services Small Business Administration Voluntary Agencies

BACKGROUND INFORMATION 7-12

OVR provides services for a disabled homemaker. It will provide adapted equipment, ramps, bathroom. Anything to make homemakers functional.

OVR provides adjustments in the home to make disabled independent and allow someone else to go out to work.

Hand controls and driving lessons to make disabled persons more independent.

OVR will provide free plastic surgery to persons over 21 for cosmetic (appearance) problems that prevent employment and independence, e.g., teeth and burns.

People who have had stroke, heart attack, vision, hearing problems – may be eligible for OVR training. You can help them by telling them about OVR.

Write for these brochures from your local office of Vocational Rehabilitation:

"Disabled? Vocational Rehabilitation Can Help"
"Are You Handicapped? Vocational Rehabilitation May Be Able to Assist you".

III. **Supplemental Security Income** – provides money only. Eligible over 18 – (probably based on family income) to anyone who has a disability – emotional, physical, intellectual, or geriatric.

Supplemental Security Income works for social security – at 21 when you are no longer legally dependent, you may get an increase.

If you receive SSI, you can't receive Social Security. You can still work part time and receive this.

If you receive SSI, you can't get Welfare.

Write to your local Social Security office for booklet, "Pocket Guide to Supplemental Security Income".

IV. **Associations** – Muscular Dystrophy, Dysautonomia, Osteogenesis Imperfecta, Spina Bifida, Hemophilia, Easter Seals, etc.

Associations provide information and clinical research for rehabilitation and prevention.

Muscular Dystrophy – provides equipment that will make individual comfortable and lessen burden on family – motorized wheelchair only under exceptional circumstances. Do medical evaluations and research. Group counseling for parents.

Dysautonomia, Osteogenesis Imperfecta, Spina Bifida – primarily provide research and medical clinic consultations.

Easter Seals, Jewish Philanthropies, Spina Bifida Associations – recreational outlets – parties, trips to football games, transportation, summer camp, etc.

All produce newsletters to inform members of recreational outlets.

Each student should research his own associations to see what they provide – See address on pamphlets or look them up in the Yellow Pages – under "Associations" or "Agencies".

V. **Social Services** – If you are unable to work or care for yourself these services may be available from your State Department of Social Services, depending on income: Homemaker services, visitors to call on you at home, help with other types of living arrangements, protective services.

Financial Assistance – Small Business Administration Handicapped Assistance Loans for establishing or operating a small business wholly owned by handicapped persons may be available through the regional, district, or branch office of Small Business Administration.

Voluntary Agencies Offering Help for the Disabled:

ICD Rehabilitation and Research Center
Goodwill Industries of America
National Rehabilitation Association
Federation Employment and Guidance Service
Federation of the Handicapped, Inc.
The President's Committee on Employment of the Handicapped
National Congress of Organizations of the Physically Handicapped, Inc.

CONCEPTS	STUDENT ACTIVITIES	STUDENT SELF-EVALUATIONS
	3. Voting – Check with the Board of Elections to find out if your polling place is accessible. If not, you are entitled to an absentee ballot for general elections. Request an application at least one month before the election. Invite your social studies teacher to explain: the differences between laws and rules; the differences between criminal and civil law; how discrimination violates the civil law; and how your civil rights are protected. Write to: Closer Look National Information Center for the Handicapped Box 1492 Washington, D.C. 20013 Ask to be put on their mailing list.	

APPENDIX

NEW YORK STATE CURRICULUM TOPICS

The following are the topics covered in the New York State Curriculm (See ERIC Microfiche #ED 077 725) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been covered in the modules.

World Health

Grades 4-6

I. People, Places and Health
   - A. World health activities
     1. Need
     2. Organizations
     3. International cooperation
     4. Scope of world health problems
   - B. United Nations International Children's Emergency Fund

The following are the topics covered in the New York State Curriculum (See ERIC #ED 077 725) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been covered in the modules.

Environmental and Public Health

Grades K-3

I. Environmental Factors
   - A. Definition and perception of existing environment
   - B. Effects of environment
   - C. Control of environment
   - D. Respect and appreciation of environment
   - E. Changing the environment
   - F. Control of pollution of the environment

II. Responsibility for Healthy Environment in School, Home and Community
   - A. Working together
   - B. School
   - C. Home
   - D. Community

III. Health Professionals in the Community
   - A. Physicians and nurses
   - B. Dentist and dental hygienist
   - C. School nurse-teacher

The following are the topics covered in the New York State Curriculum (See ERIC #ED 049 478) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been covered in the modules.

Environmental and Public Health

Grades 4-6

I. The Environment and Health Status
   - A. Explanation of the relationship between man, environment, and health
   - B. History of environmental control
     1. Past
     2. Present

II. Man's Environment and Disease
   - A. Explanation of the relationship
   - B. History of relationship

III. Water
   - A. Need for water
     1. Sources of water
     2. Uses of water
   - B. Management for clean water
     1. Methods of management
     2. Role of government
        - a. National
        - b. State
        - c. Local
   - C. Pollution of water
     1. Definition of water pollution
     2. Cause of water pollution
        - a. Communities
        - b. Industries
        - c. Improper use of land areas through highway construction, farming, forestry
     3. Effects of pollution

NEW YORK STATE CURRICULUM TOPICS

II. The World Health Organization
- A. What it does
- B. Role in solving world health problems
  - 1. Services
  - 2. Personnel
- C. Goal
  - 1. Objective
  - 2. Reaching the objective
- D. Its make-up
  - 1. Main bodies
  - 2. Regional offices

III. The Health of Children Throughout the World
- A. In America
- B. In other lands

IV. Air
- A. Composition of air
- B. Need for air
- C. Pollution of air
  - 1. Definition of air pollution
  - 2. Causes of air pollution
    - a. Residential
    - b. Industrial
    - c. Automotive
    - d. Natural
    - e. Atmospheric conditions
  - 3. Harmful effects of air pollution
    - a. Health
    - b. Agriculture
    - c. Reduced visibility
- D. Control of air pollution
  - 1. Need for control
  - 2. Devices for control
    - a. Automotive
    - b. Industrial
  - 3. Measurement of pollution
    - a. Ringelmann chart
    - b. Dustfall
  - 4. Laws and regulations for air pollution control
    - a. Federal
    - b. State
    - c. Local

V. Food Protection
- A. Importance for health
- B. Food handling
  - 1. Definition of food handling
  - 2. Contamination problems
  - 3. Additive problems
- C. Supervision of food
  - 1. Agencies – laws
  - 2. The consumer

VI. Water Treatment
- A. Improvement to health
- B. Sewage (liquid waste)
- C. Refuse (solid waste)

VII. Insects and Rodents
- A. Rodents
- B. Insects
- C. Need for control
- D. Methods of control
- E. Responsibility for control

VIII. Maintaining a Healthful Environment
- A. In the home
  - 1. Purpose
  - 2. Responsibility
- B. In the community
  - 1. Purpose
  - 2. Service responsibility

The following are the topics covered in the New York State Curriculum (See ERIC #ED 077 726) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been covered in the modules.

Environmental and Public Health

Grades 7, 8, 9

I. History of Environmental and Public Health

NEW YORK STATE CURRICULUM TOPICS

II. Relationships Among Environment, Disease and Health

III. Scope of Public Health

IV. Water and Water Pollution

V. Air and Air Pollution

VI. Radiation and Health

VII. Food

VIII. Space-Age Health

IX. Pesticides and Insecticides

X. Discovering Health Needs and Agencies in the Community

XI. Recent Progress in Medicine and Public Health

XII. Unsolved Problems in Medicine and Public Health

The following are the topics covered in the New York State Curriculum (See ERIC #ED 049 477) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been covered in the modules.

Environmental and Public Health

Grades 10, 11, 12

I. History of Environmental and Public Health

II. Definitions

III. Need for Healthful Environment

IV. Water and Water Pollution

V. Air and Air Pollution

VI. Radiation

VII. Food

VIII. Vector and Rodent Control

IX. Nuisances and Sanitation

X. Housing

XI. Pesticides and Insecticides

XII. Garbage and Refuse Disposal

XIII. Sewage Treatment and Disposal

XIV. Occupational Health

XV. Space-Age Travel and Health

XVI. Health Agencies in the Community

XVII. Cooperation Between Public and Private Health Agencies

XVIII. Sociological Aspects of Health

XIX. Solving Community Health Problems

XX. Volunteer Services for Health Institutions

XXI. Recent Progress in Medicine and Public Health

XXII. Unsolved Problems in Medicine and Public Health

The following are the topics covered in the New York State Curriculum (See ERIC #ED 077 728) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been included in the modules.

World Health

Grades 7, 8, 9

I. Understanding World Health
   A. Factors influencing world health

NEW YORK STATE CURRICULUM TOPICS

1. Populations
2. Cultural influences
3. Family structure
4. Economic level

B. World Health Education

C. Major world health problems
1. Disease control
2. Nutritional problems
3. Mental health

II. International Programs and Agencies
A. International Office of Public Health
B. Pan American Sanitary Bureau
C. Health Organization of the League of Nations
D. World Health Organization

The following are the topics covered in the New York State Curriculum (See ERIC #ED 077 729) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been included in the modules.

World Health

Grades 10, 11, 12

I. International Cooperation
A. Identifying health needs
1. Critical world health problems
2. Immediate and long-range programs
3. Historical advances – 1948-1969

B. International organization
1. W.H.O.
2. Program development within nations
3. Effects of organization and cooperation on world health levels
4. Establishing national and international health priorities

C. Youth's involvement in world health

II. World Health Concerns
A. Environmental problems
1. Water – antipollution programs
2. Air and air pollution
3. Pest controls

B. Disease control – effects on living
1. Communicable diseases
2. Non-communicable diseases
3. Degenerative diseases

C. Research
1. International sharing
2. Training of personnel – opportunities for youth in health careers
3. Types of research
a. Use of animals – comparative medicine
b. Laboratory – biochemical, chemical, pharmaceutical
c. Clinical
4. Medical advances which benefit the world

D. Health Education
1. International communications
2. Youth involvement – exchange
3. Formal – informal
4. World multimedia approach

E. Youth
1. Mental and social health
2. Population problems
3. Drugs misuse and abuse
4. Birth and family responsibility
5. Governmental involvement
6. Personal concerns

F. Health facilities
1. Laboratories
2. Hospitals and clinics
3. Schools, colleges

G. Nutrition

III. Global Implications of Health
A. Cultural influences
1. Treatment – cure
2. Overpopulation

B. Progress toward global health
1. Prevention – control
2. Population planning
3. Space health
4. Global health planning

NEW YORK STATE CURRICULUM TOPICS

The following are the topics covered in the New York State Curriculum (See ERIC #ED 077 724) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been included in the modules.

Human Ecology, Epidemiology, and Health

Grades 7, 8, 9

I. Introduction to Human Ecology
   - A. Ecologic components
     1. Physical
     2. Biological
     3. Sociocultural

II. Man's Health and the Physical Environment
   - A. Air
   - B. Water
   - C. Soil
   - D. Geography and topography
   - E. Climate
   - F. Communities and housing
   - G. Interaction of physical components
   - H. Health implications of man's efforts to control his physical environment

III. Man's Health and the Biological Environment
   - A. Dependence on plant and other animal life
   - B. Animal life and man's health
     1. Beneficial effects
     2. Harmful effects
   - C. Plant life and man's health
     1. Beneficial effects
     2. Harmful effects
   - D. Health implications of man's efforts to control the biological environment
     1. Nitrate saturation of soil
     2. DDT use and its impact on food supply
     3. Others

IV. Man's Health and the Sociocultural Environment
   - A. Description of the sociocultural environment concept
   - B. Social influences on health
   - C. Cultural influences on health
   - D. Beliefs, attitudes, and action: Sociocultural implications

V. The Individual's Health as Affected by Interaction With His Environment
   - A. Interaction of forces that may affect your health
   - B. Causal approach to problem solving

The following are the topics covered in the New York State Curriculum (See ERIC #ED 077 723) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been included in the modules.

Human Ecology, Epidemiology, and Health

Grades 10, 11, 12

I. Definitions and Meanings of Epidemiology and Ecology
   - A. Human Ecology
   - B. Epidemiology
     1. Collection of data
     2. Census reports

II. Epidemiological method
   - A. Aims and purposes
   - B. The Epidemiological approach in scientific research

III. Factors That Influence the Occurrence, Distribution, Development, Control, and Prevention of Disease, Disability, Defect, and Death
   - A. Host Factors
     1. Heredity and health
     2. Heredity and disease
     3. Sex and health
     4. Race and health
     5. Occupation and health
     6. Psychological and social factors
        - a. Psychological factors
        - b. Social factors
     7. Cultural effects on health and public health programs

NEW YORK STATE CURRICULUM TOPICS

B. Agent factors
   1. Classes of agent factors
   2. Absence of known factors

C. Environmental factors
   1. Physical
      a. Climate and health
      b. Topography and health
   2. Geography and health
   3. Communities and housing
   4. Sociocultural environment
      a. Social theory
      b. Poverty, economics, and health

D. Interaction of agent, host, and environment
   1. Mode of transmission
   2. Multiple causation theory
   3. The role of beliefs, values, and knowledge in affecting health attitudes and practices

IV. Epidemiology and Ecology in the Modern Era
   A. Public health problems with ecologic implications
   B. Environmental applications

The following are the topics covered in the New York State Curriculum (See ERIC #ED 037 738) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been included in the modules.

Consumer Health

Grades 7, 8, 9

I. Quackery and Quacks
   A. Definitions
   B. Recognizing the quack
   C. Quack modalities
   D. Common quack approaches
   E. The hazards of quackery
   F. Why do people consult medical frauds?
   G. Highlights in the history of quackery

II. Consumer Protection
   A. Early efforts
   B. 20th century legislation
   C. Federal organizations
   D. Professional groups
   E. Voluntary health agencies
   F. Commercial groups

III. Consumer Motivation
   A. Motives
   B. Role of motives (incentives) in consumer behavior
   C. Classifications of motives
   D. Consumer purchasing patterns
   E. The teen-age consumer

The following are the topics covered in the New York State Curriculum (See ERIC #ED 037 739) and recommended as a starting point for all physically disabled students. Topics requiring special background information and/or special concepts have already been included in the modules.

Consumer Health

Grades 10, 11, 12

I. Influences on Consumer Behavior
   A. Psychological considerations
   B. Other influences on consumer behavior
   C. Advertising and selling approaches
   D. Health information

II. Contemporary Quackery and Pseudoscientific Practices
   A. Cancer and arthritis quackery
   B. Pseudoscientific practices

III. Health Personnel and Medical Care
   A. Physicians and dentists
   B. Paramedical specialists
   C. Other health personnel
   D. Medical care
   E. The consumer and the drug industry

HELPFUL TEACHER REFERENCES USED BY HEALTH PROJECT COMMITTEE

Dickman, Irving R. Independent Living: New Goal for Disabled Persons. Public Affairs Pamphlet No. 522. Public Affairs Pamphlets; 381 Park Avenue South; New York, New York 10016. 35¢ each.

Goldsmith, Selwyn. Designing for the Disabled. New York: McGraw Hill, 1967.

Gutman, Ernest M. Wheelchair to Independence – Architectural Barriers Eliminated. Springfield, Illinois: Charles C. Thomas, 1968.

Savitz, Harriet May. Consider . . . Understanding Disability as a Way of Life. Sister Kenny Institute. Department 188; 1800 Chicago Avenue; Minneapolis, Minnesota 55404. $2.00

Velleman, Ruth A. Library Adaptations for the Handicapped. School Library Journal. October, 1974, Vol. 21, No. 2.

Magazines Related to Rehabilitation

Rehabilitation Digest – quarterly magazine, Canadian Rehabilitation Council for the Disabled; Suite 2110; One Younge Street; Toronto, Ontario, Canada M5B 1EB

Rehabilitation Gazette – annual magazine, 4502 Maryland Avenue; St. Louis, Missouri 63108.

Rehabilitation World – quarterly journal, published by: Rehabilitation International U.S.A.; 20 West 40 Street; New York, New York 10018

Help Available for the Physically Disabled

New York State Department of Social Services. Social Services for the Aged, Blind, and Disabled. Albany, New York: Author, May, 1974.

Available from Publications Clerk, State Department of Social Services, 1450 Western Avenue; Albany, N.Y. 12203. Pub. No. 1124 (5-74 rev.)

Tritell, Anita. General Information to Help the Recently Disabled. Albertson, New York: INA-MEND Institute – Human Resources Center, 1974.

Tritell, Anita. The Rehabilitation Facility and Its Specialists. Albertson, New York: INA-MEND Institute – Human Resources Center, 1975.

Tritell, Anita. Financial Assistance for the Disabled. Albertson, New York: INA-MEND Institute – Human Resources Center, 1975.

U.S. Department of Health, Education, and Welfare. Helping the Aged, Blind, And Disabled in New York State. DHEW Publication No. (SSA) 75-11146. Washington, D.C.: December, 1974. Available – U.S. Government Printing Office, Washington, D.C. 20402.

U.S. Department of Health, Education and Welfare. If You Become Disabled. DHEW Publication No. (SSA) 75-10029. Washington, D.C.: Social Security Administration, January, 1975.

For sale – U.S. Government Printing Office; Washington, D.C. 20402 (40¢).

ANNOTATED BIBLIOGRAPHY FOR SPECIFIC DISABILITIES

AMYOTONIA CONGENITA

Muscular Dystrophy Associations of America. Oppenheim's Disease or Benign Congenital Hypotonia Fact Sheet. New York (1970 Broadway): Author, n.d. 3 pages.

Brief description of the causes, symptoms, inheritance pattern, and progression of Oppenheim's disease, which causes the muscle weakness known as the amyotonia congenita syndrome. Covers medical treatments and research. Offers local MDAA offices as sources of additional information.

Muscular Dystrophy Associations of America. Werding-Hoffman Disease or Infantile Spinal Muscular Atrophy Fact Sheet. New York (1970 Broadway): Author, n.d. 3 pages.

Same format as the MDAA fact sheet on Oppenheim's Disease. General information on Werding-Hoffman disease, which also causes the amyotonia syndrome. Offers local MDAA offices as sources of additional information.

ARTHRITIS

U.S. Department of Health Education, and Welfare. Arthritis. Washington, D.C.: U.S. Government Printing Office, 1968. 6 pages. $ .05 per single copy.

Brief historical description of research and treatment related to rheumatoid arthritis, osteoarthritis, and gout. General information on causes and symptoms of the disease. Includes sources of additional information.

BIRTH DEFECTS

National Foundation – March of Dimes. Birth Defects. White Plains, New York (P.O. Box 2000): Author, n.d. 14 pages.

Simple statistical information on the prevalence of common birth defects in the United States and on those which appear after birth. Description of hereditary and environmental influences, prevention, and treatment.

CEREBRAL PALSY or SPASTIC PARAPLEGIA

Seaver, Jacqueline. Cerebral Paley – More Hope Than Ever. New York (381 Park Ave.): Public Affairs Committee, 1969. Pamphlet # 401. 27 pages. $ .25 per single copy.

General information on the causes and symptoms of cerebral palsy. Covers special problems related to the disability, child development, and employment. Describes treatment and research.

United Cerebral Palsy Associations. Realistic Educational Planning for Children With Cerebral Palsy. New York (66 E. 34 St.): Author, n.d. 24 pages. & .25 per single copy.

A source of information and guidance for school personnel involved in the psychological evaluation of cerebral palsied children. Coverage includes problems in the administration and interpretation of standardized tests. A bibliography of suggested reading is included.

CHARCOT-MARIE-TOOTH DISEASE

Muscular Dystrophy Associations of America. Charcot-Marie-Tooth Disease or Peroneal Muscular Atrophy Fact Sheet. New York (1970 Broadway): Author, n.d. 3 pages.

Brief information on Charcot-Marie-Tooth disease, presented in the same format as the MDAA fact sheets on amyotonia congenita. Offers local MDAA offices as sources of additional information.

DYSAUTONOMIA

Dysautonomia Association. Educating the Child With Familial Dysautonomia. Brooklyn, New York (32 Court St.): Author, 1967, 15 pages.

A practical guide to help parents deal with the educational lives of their dysautonomic children. Includes information on testing, expectations, relations

ANNOTATED BIBLIOGRAPHY FOR SPECIFIC DISABILITIES (continued)

DYSAUTONOMIA (continued)

with teachers, parents' role in schooling, and different types of schools.

Riley, C. M. Living With A Child With Familial Dysautonomia. Brooklyn, New York (32 Court St.): Dysautonomia Association, 1956, 40 pages.

Detailed information for parents of dysautonomic children. Coverage includes a description of the autonomic nervous system as it is affected by the condition, management of dysautonomic children, heredity, genetics, and research.

HEART DISEASE

American Heart Association. Children With Heart Disease: A Guide for Teachers. Mineola, New York (365 Willis Ave.): Author, 1971, 15 pages.

Presents a general description of the symptoms, hospitalizations, and treatments faced by children with rheumatic fever or congenital heart defects. Suggests practical ways of dealing with absences and the question of vocational counseling. Gives sources of help for medical services and includes a bibliography of teaching aids.

HEMOPHILIA

National Hemophilia Foundation. The Hemophiliac and His School. New York (25 W. 39 St.): Author, n.d. 7 pages.

A source of information for school personnel who deal with Hemophiliac children. Coverage includes symptoms, prevention of injury, and treatment in emergencies. Suggests local NHF chapters as sources of additional information.

National Hemophilia Foundation. New Perspective on Hemophilia. New York (25 W. 39 St.): Author, n.d. 6 pages.

HEMOPHILIA (continued)

Brief coverage of the symptoms and genetic pattern of inheritance of hemophilia, the latter shown traced through British royalty. Description of the work done by the National Hemophilia Foundation.

National Hemophilia Foundation. Psychological Aspects of Hemophilia. New York (25 W. 39 St.): Author, n.d. 14 pages.

Presentation of the problems of overprotection, bleeding and emotions, adaptation, risk from action, maturity, discipline, hospitalizations, treatments, and family relations. Includes a bibliography for additional information.

Vogel, James M. How to Live With Hemophilia. New York: Interbook Incorporated, n.d.

Written by a physican to explain details to be considered in the activities of daily living of the hemophiliac. Contains clear explanation of the blood factors involved and of the hereditary aspects of the disease.

KUGELBERG-WELANDER DISEASE

Muscular Dystrophy Associations of America. Kugelberg-Welander Disease or Juvenile Spinal Atrophy Fact Sheet. New York (1970 Broadway): Author, n.d. 3 pages.

Brief information on Kugelberg-Welander disease, presented in the same format as the MDAA fact sheets on Amyotonia Congenita. Offers local MDAA offices as sources of additional information.

MUSCULAR DYSTROPHY

Muscular Dystrophy Associations of America. Muscular Dystrophy Fact Sheet. New York (1970 Broadway): Author, n.d. 3 pages.

ANNOTATED BIBLIOGRAPHY FOR SPECIFIC DISABILITIES (continued)

MUSCULAR DYSTROPHY (continued)

Brief information on Muscular Dystrophy, presented in the same manner as the MDAA fact sheet on Amyotonia Congenita. Offers local MDAA offices as sources of additional information.

Muscular Dystrophy Associations of America. Patient and Community Services Program. New York (1970 Broadway): Author, 1973, 19 pages.

Detailed description of MDAA services such as testing and diagnosis, therapy, innoculations, transportation, and recreation. Lists services authorized for payment and criteria for eligibility. Includes a listing of MDAA clinics throughout the United States.

PARAPLEGIA

Bundy, Kathryn. What You Should Know About Paraplegia. Adapted from "An Introduction to Paraplegia" by William H. Edward. Washington, D.C.: U.S. Government Printing Office, n.d. 12 pages. $ .25 per single copy.

Written as a practical guide to the new life faced by a paraplegic adult, but presents information valuable to teachers or parents as well. Deals with problems like toileting, skin sores, care of feet, rehabilitation, and sex.

SPINA BIFIDA

Swinyard, C. The Child With Spina Bifida. New York (345 E. 46 St.): Association for the Aid of Crippled Children, 1971. 20 pages.

A general guide for parents, presenting symptoms, causes, treatments, and special problems. Includes clear, simple illustrations. Gives addresses for obtaining translations in nine languages.

SPINA BIFIDA (continued)

Bruce, Margaret, & Veigh, Gretchen. A Practical Guide for Parents of Children With Myelomeningocele. Pittsburgh, Pennsylvania: Allegheny County Easter Seal Society for Crippled Children and Adults, 1972. 32 pages. $2.00 per single copy. *NOTE:* Order directly from Gretchen Veigh, 1065 Findley Dr. E., Pittsburgh, Pa.

A detailed treatment of spina bifida, including numerous topics such as brace adjustment, diet, clothing, medications, exercises, education, and family relations. Illustrated with clear sketches. Included is a glossary of medical terms.